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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Adrianus Johannes Van Der Leest

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EXAMINER

IRVIN, THOMAS W

ART UNIT

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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/581,079	<b>Applicant(s)</b> VAN DER LEEST ET AL.	
	<b>Examiner</b> THOMAS W. IRVIN	<b>Art Unit</b> 3657	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 25 November 2008.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 25 November 2008 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                       | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>20081202</u> .  | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Drawings***

The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the “motor vehicle having an engine”, “continuously variable transmission”, and “load” must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as “amended.” If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either “Replacement Sheet” or “New Sheet” pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

***Claim Objections***

Claim 14 is objected to because of the following informalities: "between" in line 24 should be deleted. Appropriate correction is required.

***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 17 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite in that it fails to point out what is included or excluded by the included figure, and claim language.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Durum (5,328,412) in view of Brandsma et al. (2003/0144097).

In Re claims 1, 14, and 15, Durum discloses, with reference to fig. 1, a CVT for a motor vehicle, comprising: a drive belt (6) having running surfaces (36); a primary pulley (10) with two conical pulley sheaves (20,22); a secondary pulley (12) with two conical pulley sheaves (24,26), wherein the belt is wound around the primary and

Art Unit: 3657

secondary pulleys and clamped therebetween by the primary and secondary pulley's clamping forces to transmit a supplied torque, the sheaves of the pulleys having a convex curvature, the curvature varying in relation to a radial position such that the angle is at a highest value at a location of a radially outermost position on the sheaves. Durum fails to disclose specifics of the clamping forces. Additionally, it is understood that the friction force is greater at a radially inner most running radius than a radial outer most running radius.

Brandsma et al. teach changing the clamping force of one of the pulleys (2,3) to depart from a clamping force equilibrium to change the running radius of the belt around the pulleys and the CVT ratio (see par. 2). A clamping force ratio between the primary clamping force and the secondary clamping force has a value between 1 and the clamping force ratio in the smallest transmission ratio. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have controlled the CVT of Durum by changing the clamping force ration between the primary and secondary pulleys, as taught by Brandsma et al., to efficiently and effectively control the CVT ratio between the primary and secondary pulleys.

In Re claims 2, 3, and 20, the CVT as modified, appears to be meet the limitations of the claim in that the clamping force in the primary and secondary pulley change depending on the running radius of the drive belt, and that the clamping force becomes smaller as the running radius of the drive belt increases. Brandsma et al. fail to disclose the specific clamping forces of the pulleys. However, Brandsma et al. does disclose that the clamping force may be increased or decreased (see par. 2), and that

Art Unit: 3657

the clamping force would be greater in an overdrive position than a low-drive position.

Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have any appropriate clamping ratio between the primary and secondary pulleys, to keep the drive belt properly engaged with the respective pulley, and to adjust the CVT to the desired transmission ratio.

In Re claims 4 and 5, Durum, as modified, fail to disclose a factor of safety. However, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have incorporated an appropriate factor of safety into the design of the CVT to ensure that the drive belt would not slip or the transmission fail.

In Re claims 6 and 7, see fig. 1 of Durum.

In Re claim 8, a highest value for the contact angle of the pulley sheaves in relation to said radial position is higher for the pulley sheaves of the primary pulley than the corresponding value for the pulley sheaves of the secondary pulley when the transmission is in an overdrive position.

In Re claim 9, Durum fails to teach rings on the belt.

Brandsma et al. teach forming a belt (10) provided with at least one set of rings (14,15) and a number of transverse elements (13), which can move along the set of rings (12) in the circumferential direction thereof and are provided with the running surfaces (11) (see fig. 3). It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the belt of Durum to include a set of rings and transverse elements, as taught by Brandsma et al., to allow for greater

Art Unit: 3657

frictional interaction, and thus greater torque transfer, between the belt of the conical contact surfaces of the pulleys.

In Re claim 10, the contact angle for the two pulley disks of a respective pulley appear to meet the limitations of the claim in that the angle of the secondary pulley is substantially the same or larger than the angle of the primary pulley in the lowest transmission ratio.

In Re claim 11, the contact angle for the two pulley disks of a respective pulley appear to meet the limitations of the claim in that the angle of the secondary pulley is substantially the same or smaller than the angle of the primary pulley in the highest transmission ratio.

In Re claims 12 and 13, the pulleys of Durum appear to meet the limitations of the claims (see fig. 1).

In Re claim 16, see Fig. 1 of Durum.

In Re claim 17, the CVT of Durum, as modified, appears to meet the limitations of the claim.

In Re claim 18, the clamping force ratio has an at least approximately constant value at each transmission ratio.

In Re claim 19, Durum discloses that the system is a CVT for motor vehicles (see col. 1, lines 14-19).

***Response to Arguments***

Applicant's arguments with respect to claims 1-19 have been considered but are moot in view of the new ground(s) of rejection.

***Conclusion***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to THOMAS W. IRVIN whose telephone number is (571)270-3095. The examiner can normally be reached on Mon-Fri 9am-5pm.



Art Unit: 3657

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Siconolfi can be reached on (571) 272-7124. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Thomas W. Irvin/  
Examiner, Art Unit 3657

/Robert A. Siconolfi/  
Supervisory Patent Examiner, Art  
Unit 3657